STEVEN L. BESHEAR
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SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE, 4TH FLOOR
FRANKFORT KENTUCKY 40601
www.kentucky.gov

July 25, 2011

Chris Brewer, P.E., MBA
Director of Environmental Services
Barbourville Utility Commission
P.O. Box 1300
Barbourville, KY 40906

RE: Barbourville Utility Commission
AI # 2535
Raw Waterline Upgrade Project

Dear Mr. Brewer:

Thank you for submitting a Green Project Reserve (GPR) business case for your proposed project, funded through the Drinking Water State Revolving Fund (DWSRF). A provision of the 2011, DWSRF capitalization grant requires that to the extent there are eligible project applications; states shall use 20% of its DWSRF capitalization grant for green infrastructure projects. These projects are intended to address water and energy efficiency improvements or other environmentally innovative activities. The Kentucky Division of Water (KY DOW) has reviewed the GPR business case for the Raw Waterline Upgrade project, and found the justification to be acceptable. If the scope of the project is altered in any way to exclude the GPR eligible components, The Barbourville Utility Commission shall submit the changes in writing to the KY DOW and receive prior approval in writing before proceeding with construction.

We look forward to working with you in finalizing your drinking water infrastructure project. If you have any questions regarding this correspondence, please contact me at (502) 564-3410, ext 4832.

Sincerely,

Greg Goode, P.E.
Water Infrastructure Branch
Division of Water

Cc: Mitch Brumsma P.E., Vaughn & Melton
Kentucky Infrastructure Authority

GREEN COMPONENT SUPPLEMENT TO THE 2011 CWSRF AND DWSRF CALL FOR PROJECTS

During the 2011 Call for Projects held October 2009 through March 2010, the below referenced project was identified as "green" or included "green" components. In order to determine the green costs and whether or not the project is considered categorically green or whether a business case will be required, the Division of Water needs additional information.

Attached to this email is the current Green Guidance for the 2011 funding cycle. Green projects are classified as projects that address: Water Efficiency, Energy Efficiency, Green Infrastructure or Environmentally Innovative Activities. The guidance discusses each of these categories and the components or types of projects that would require a business case versus a classification of categorically green.

Please review the attached guidance and complete the below information. Questions or completed forms should be submitted to the Division of Water contacts noted below:

Clean Water SRF
Anshu Singh
Anshu.singh@ky.gov
502-564-3410 ext. 4805

Drinking Water SRF
Amanda Yeary
Amanda.yeary@ky.gov
502-564-3410 ext. 4839

Applicant (Must be governmental entity):	**Barbourville Utilities District**
Project Name:	**Raw Waterline Upgrades**
WX / SX Number (required):	**WX21121550**

Please provide contact information for questions relating to this form only:

Contact Name:	Mitch Brunsma, P.E., Vaughn & Melton Consulting Engineers
Email:	mlbrunsma@vaughnmelton.com
Telephone:	(606)248-6600

1) Based on the attached guidance, do you consider your project a 100% green project?

Yes _____ No ____x___

2) Based on the attached guidance, please categorize your green components into the identified categories and provide a listing of the green components and an estimation of related costs at this time:

a. Water Efficiency

Component	Cost

$ _____ (total)

b. Energy Efficiency

Component	Cost
Variable Frequency Drive Pumps and Controls at the Raw Water Intake Pump Station	$ 460,000
Variable Frequency Drive Pumps and Controls at the Booster Pump Station	$ 320,000

$ 780,000 (total)

c. Green Infrastructure

Component	Cost

$ _____ (total)

d. Environmentally Innovative Activities

Component	Cost

$ _____ (total)

3) Total Project Cost related to "green" components (all categories): $ 780,000

AI = 2222

Raw Water Line Upgrade – Green Project Reserve Business Case

The Barbourville Utility Commission plans on upgrading the existing Raw Water Line that extends from Craigs Creek on Laurel River Lake to the Barbourville Water Treatment Plant, approximately 24 miles. This project will involve the replacement of the existing 200 hp pumps at the intake, the addition of a booster pump station and the addition of seven (7) miles of 16 inch water line.

The current pumps and line configuration has a maximum capacity of 2.2 Million Gallons per Day (MGD), the planned upgrade will increase this capacity to 5.0 MGD. This will be accomplished by replacing the three (3) existing 200 horsepower pumps with two (2) 450 horsepower pumps at the intake and the addition of two (2) 500 horsepower pumps in a booster station.

Due to the needed increase in capacity, the proposed pumps cannot be fairly compared to the existing pumps to determine efficiencies. The proposed pumps will include Variable Frequency Drive (VFD) controllers.

By using VFD's as compared to conventional motor controls, the Utility will be able to save approximately $27,000 per year.

Intake Pumps (without VFD)

- Annual Cost : (0.746 kw/hp)(430 hp)(8.3 hours/day)(365 days/yr)/ (0.96 efficiency)($0.07/kw-hr) = $70,860.64

Intake Pumps (with VFD)

- Annual Cost : (0.746 kw/hp)(280 hp)(11.3 hrs/day)(365 days/yr)/ (0.96 efficiency)($0.07 /kw-hr) = $62,819.57

Annual Savings = $8,041.07

Booster Pumps (without VFD)

- Annual Cost: (0.746 kw/hp)(442 hp)(8.3 hrs/day)(365 days/yr)/(0.96 efficiency)($0.07/kw-hr) = $72838.14

Booster Pumps (with VFD)

- Annual Cost: (0.746 kw/hp)(240hp)(11.3 hrs/day)(356 days/yr)/(0.96 efficiency)($0.07/kw-hr) = $53,845.35

Annual Savings = $18,992.79

Total Savings using VFD's: $27,033.86 annually.